CLAIMS

What is claimed is:

1. A digital camera comprising:

a control subsystem comprising a microprocessor;

an imaging subsystem in communication with the control subsystem; and

a power management subsystem in communication with the control subsystem, the power management subsystem comprising:

power selection-isolation circuitry for isolating at least two power sources;

battery charging circuitry in communication with the power selection-isolation circuitry; and

power arbitration circuitry in communication with the power selection-isolation circuitry and the battery charging circuitry.

2. The digital camera of claim **1** further comprising a user interface subsystem for providing a camera status and initiating a camera function.

3. The digital camera of claim **2** wherein the power arbitration circuitry comprises:

a camera wakeup generation module in communication with the user interface subsystem; and

a failsafe reset module in communication with the wakeup generation module and the microprocessor.

4. The digital camera of claim **3** wherein the user interface subsystem comprises:

a user accessible actuator for implementing a camera function;

an inverter having an input in communication with the user accessible actuator and an output in communication with the wakeup generation module;

an active pull-up latch in communication with the inverter input and the inverter output;

a first active pull-up in communication with the inverter input adapted to receive a first control signal; and

a second active pull-up in communication with the inverter input adapted to receive a second control signal.

5. The digital camera of claim **4** wherein the user accessible actuator comprises a switch.

6. The digital camera of claim **4** wherein the user accessible actuator comprises a button.

7. The digital camera of claim **4** wherein the first control signal comprises a strobed signal.

8. The digital camera of claim **4** wherein the second control signal comprises a logic signal active at a power off state.

9. The digital camera of claim **1** wherein the battery charging circuitry comprises:

a first transistor having a first active area;

a second transistor having a second active area, the second transistor connected to the first transistor in a differential configuration; and

at least one supplemental transistor having a supplemental active area, the supplemental transistor connected in series with a supplemental switch, the

supplemental transistor and supplemental switch further connected in parallel with the second transistor.

10. The digital camera of claim **9** wherein the second active area is about ten times the first active area.

11. The digital camera of claim **9** wherein the supplemental switch has a state established by a firmware instruction.

12. The digital camera of claim **1** wherein the power selection-isolation circuitry comprises a power arbitration circuit comprising:

a battery power bus;

an external power bus;

a first transistor adapted to receive a battery enabling signal, the first transistor having a first shunt diode, the first shunt diode having a first shunt anode and a first shunt cathode, the first shunt anode in communication with the battery power bus; and

a second transistor adapted to receive a bus enable signal, the second transistor having a second shunt diode, the second shunt diode having a second shunt anode and a second shunt cathode, the second shunt anode in communication with the external power bus and the second shunt cathode in communication with the first shunt cathode.

13. The digital camera of claim **12** wherein the first shunt diode comprises a parasitic component of the first transistor.

14. The digital camera of claim **12** wherein the second shunt diode comprises a parasitic component of the second transistor.

15. The digital camera of claim 1 wherein the power selection-isolation circuitry comprises:

a battery power bus;

an external power bus;

a first transistor adapted for receiving a shutdown signal having a first shunt diode, the first shunt diode having a first shunt anode and a first shunt cathode, the first shunt cathode in communication with the external power bus;

a second transistor adapted for receiving the shutdown signal having a second shunt diode, the second shunt diode having a second shunt anode and a second shunt cathode, the second shunt anode in communication with the first shunt anode; and

a third transistor adapted for receiving a control signal having a third shunt diode, the third shunt diode having a third shunt anode in communication with the battery power bus, and a third shunt cathode in communication with the second shunt cathode.

16. The digital camera of claim **15** wherein the first shunt diode comprises a parasitic component of the first transistor.

17. The digital camera of claim **15** wherein the second shunt diode comprises a parasitic component of the second transistor.

18. The digital camera of claim **15** wherein the third shunt diode comprises a parasitic component of the third transistor.

19. A camera body having a tongue and groove configuration comprising:

a front cover having a first front edge and a second front edge, each of the first front edge and the second front edge having a lip;

a rear cover having a first rear edge and a second rear edge, each of the first rear edge and the second rear edge having a lip;

a first rail having a groove adapted to receive the lip of the first front edge and the lip of the first rear edge; and

a second rail having a groove adapted to receive the lip of the second front edge and the lip of the second rear edge,

wherein the front cover and the rear cover are held in substantial parallel alignment when the front edge lip and the rear edge lip are received in the groove of the first rail and the second rail, respectively.

20. The camera body of claim **19** further comprising a third front edge, a third rear edge, and an end cap adapted to receive the third front edge and the third rear edge.

21. The camera body of claim **19** wherein the first rail and the second rail each has a first end and a second end, each of the first and second ends having a threaded hole configured to receive a fastening screw.

22. The camera body of claim **21** further comprising an end cap and a pair of fastening screws, the end cap being fastened to the first and second rails at each of the threaded holes by a respective one of the fastening screws.

23. A rechargeable camera power source comprising:

a printed circuit board having a first side, a second side and a pair of conductive pads disposed on the second side, the board defining a pair of apertures, each of the apertures configured to provide a passage between the first side and the second side; and

a rechargeable battery comprising:

a planar battery body disposed substantially parallel and adjacent to the first side of the printed circuit board; and

a pair of conformable battery terminals, each of the terminals passing through a respective board aperture and bonded to a respective one of the conductive pads.

24. The power source of claim **23** wherein the rechargeable camera power source is permanently fixed to the printed circuit board.

25. A retractable and extendable lens holder comprising:

a lens mount adapted to hold a lens assembly;

a camera body surface; and

a biasing component disposed between the lens mount and the camera body surface, the biasing component configured to move the lens assembly from a stored position to an operating position.

26. The lens holder of claim **25** wherein the distance from the lens assembly in the operating position to an imager chip is substantially a focal distance of the lens assembly.

27. The lens holder of claim **25** wherein the biasing component is a spring.

28. A retractable and extendable lens holder comprising:

a lens mount adapted to hold a lens assembly;

a camera body surface; and

a pivoting linkage coupled to the camera body surface and the lens mount, the pivoting linkage adapted to move the lens mount between a first position adjacent to an imager chip and a second position in front of the imager chip,

wherein an axis of the lens assembly is substantially normal to and centered on an imaging surface of the imager chip when the lens mount is in the second position.

29. A retractable and extendable lens holder comprising:

a lens holder;

a camera body surface;

a ramp arm having a pivot axis parallel to the camera body surface;

a retraction device coupled to the ramp arm; and

an angular bias component having a first bias arm, a second bias arm and a bias axis, the bias axis being parallel to pivot axis;

wherein the retraction device is disposed relative to the ramp arm such that the retraction device moves the ramp arm to a first position when the lens holder is in an operating position and the retraction device moves the ramp arm to a second position when the lens holder is in a stored position.

30. The lens holder of claim **29** wherein the retraction device is a cover plate adapted for sliding parallel to the camera body surface.

31. The lens holder of claim **29** wherein the angular bias component is a turn spring.

32. A retractable and extendable lens holder comprising:

a dome switch having a bistatic surface and having a base adapted for mounting to a camera body surface, the bistatic surface having a first stable position and a second stable position defining a first surface and a second surface, respectively;

a lens holder coupled to the bistatic surface of the dome switch;

wherein the lens holder is disposed at a first lens position in response to the bistatic surface changing from the second surface to the first surface and wherein the lens holder is disposed at a second lens position in response to the bistatic surface changing from the first surface to the second surface.

33. The lens holder of claim **32** wherein the bistatic surface of the dome switch changes from one of the first surface and the second surface to the other of the first surface and the second surface in response to a temporary pressure applied to the bistatic surface.

34. The lens holder of claim **32** further comprising a dome assist mechanism coupled to the camera surface and the bistatic surface of the dome switch, the dome assist mechanism moving the bistatic surface of the dome switch from the second surface to the first surface in response to a temporary pressure applied to the bistatic surface.

35. A digital camera comprising:

a camera body having a thickness;

a lens holder mounted to the camera body;

a viewfinder objective lens disposed in the lens holder;

a viewfinder eyepiece mounted to the camera body,

wherein the a working length of the viewfinder objective lens and the viewfinder eyepiece is greater than the thickness of the camera body.

36. A digital camera comprising:

a camera body having a thickness;

a lens holder mounted to the camera body;

a viewfinder eyepiece disposed in the lens holder;

a viewfinder objective lens mounted to the camera body,

wherein the a working length of the viewfinder objective lens and the viewfinder eyepiece is greater than the thickness of the camera body.

37. The camera of claim **35** wherein the viewfinder eyepiece is moveable to change a separation between the viewfinder eyepiece and the viewfinder objective lens.

38. A digital camera comprising:

a means for controlling operation;

a means for acquiring an image;

a means for managing power in communication with the acquiring means, the power-management means comprising;

a means for controlling power

a means for charging a battery in communication with the power-control means;

a means for arbitrating power in communication with the power-control means and the battery-charging means.